first and second conductor ablation energy thresholds exceeding the dielectric ablation energy threshold, comprising:

generating a first laser output having a wavelength of less than 400 nm and containing at least one first laser pulse having a first energy density over a first spatial spot size, the first energy density being greater than the first conductor ablation energy threshold;

applying the first laser output to the target to remove the first conductor layer within a first spot area of the target;

generating a second laser output having a wavelength of less than 400 nm and containing at least one second laser pulse having a second energy density over a second spatial spot size, the second energy density being less than the first and second conductor ablation energy thresholds and greater than the dielectric ablation energy threshold; and

applying the second laser output to the target to remove the dielectric layer within a second spot area of the target and, as a consequence of the second energy density being less than the second conductor ablation energy threshold, to leave the second conductor layer substantially unvaporized and thereby form a depthwise self-limiting blind via.

2. (Amended) The method of claim 1 in which the dielectric layer comprises benzocyclobutane (BCB), bismaleimide triazine (BT), cardboard, cyanate esters, epoxies, paper, phenolics, polyimides, PTFE, or combinations thereof and [the metal] at least one conductor layer comprises aluminum, copper, gold, molybdenum, nickel, palladium, platinum, silver, titanium, tungsten, or combinations thereof.

Cancel claim 3.

Amend Claims 4, 10-12, 14-16, and 18 as follows:

4. (Amended) The method of claim 3 in which the first and second laser pulses have a temporal pulse width shorter than about 100 ns, the first and second laser [output has] outputs have an average output power of greater than about 100 mW measured over [the] their respective spatial spot [size, and] sizes, the first laser [pulses are] pulse is generated at a first repetition rate of greater than about 1 kHz and the second laser pulse is

generated at a repetition rate that is significantly different from the first repetition rate.

10. (Amended) The method of claim 3 in which the first and second laser [output is] outputs are generated by a solid-state laser comprising Nd:YAG, Nd:YLF, Nd:YAP, or $Nd:YVO_4$.

12 ~~11~~. (Amended) The method of claim 1 in which the first spatial spot size defines a spot area that is smaller than and lies within a spatial region of the target, the spatial region having a periphery and a central portion, the method further comprising:

directing [the] at least one of each of the first and second laser pulses sequentially to multiple positions associated with the spatial region to remove multiple amounts of target material corresponding to the spot areas, the multiple positions defining a contiguous set of spot areas extending outwardly from the central portion along a path to the periphery of the spatial region, to remove the target material from the spatial region and thereby produce a blind via in the target material.

13 ~~12~~. (Amended) The method of claim [3] 1 in which the dielectric layer includes a reinforcement material that comprises glass, aramid fibers, ceramics, or combinations thereof.

15 ~~14~~. (Amended) The method of claim 1 wherein the first laser output is focused at a focal plane, further comprising:

positioning the target at a first distance relative to [a] the focal plane prior to applying the first laser output; and

positioning the target at a second distance, different from the first distance, relative to the focal plane prior to applying the second laser output, thereby modifying the second spatial spot size [between] relative to the first [and second laser outputs] spatial spot size.

17 ~~15~~. (Amended) The method of claim 1 further comprising employing variable apertures, adjustable collimators or variable lens elements to modify the second spatial spot size [between] relative to the first [and second laser outputs] spatial spot size.

18 ~~16~~. (Amended) The method of claim 1 in which the first and second laser outputs form a first set of laser outputs, the first and second conductor layers and the dielectric [layers] layer form a first set of layers and the target comprises at least a second set of layers, including a [second] third conductor layer and a second dielectric layer, the second set of layers positioned atop the first set of layers such that the second dielectric layer is positioned between the first and third conductor layers, the method further comprising:

[repeating the steps of] prior to generating and applying the first set of laser outputs, generating and applying a second set of first and second laser outputs to form a via through the [first and second] third and conductor layer and the second dielectric [layers] layer.

19 ~~17~~. The method of claim ~~15~~ 18 in which the via is stepped between the first and second sets of layers.

20 ~~18~~. (Amended) The method of claim 1 in which the first and second laser outputs create a noncircular via.

Cancel Claim 19.

Amend Claim 20 as follows:

7 ~~20~~. (Amended) The method of claim 5 further comprising changing the second output power [between] relative to the first [and second laser outputs] output power by employing a Q-switch, a polarization state changer, a quarter wave plate, or a Pockel's cell [or by changing the output of a lamp or diode pump source].

Add the following claims:

--21. The method of claim 1 in which the wavelengths of the first and second pulses comprise 355 nm or 266 nm.--

--22. The method of claim 1 in which the second conductor layer absorbs the wavelength of the second laser output and the second energy density remains below the ablation energy threshold of the second conductor layer.--

--23. The method of claim 1 in which the first and second laser outputs are generated by a nonexcimer laser.--

--24. The method of claim 23 in which the first and second laser outputs are generated by a solid-state, Q-switched laser.--

--25. The method of claim 1 in which the repetition rate of the second laser output is greater than the repetition rate of the first laser output.--

--26. The method of claim 1 in which the first and second laser outputs comprise the same wavelength.--

--27. The method of claim 1 in which the first and second laser outputs are generated by the same laser.--

--28. The method of claim 1 in which the first laser output has a first repetition rate that is greater than 200 Hz and the second laser output has a second repetition rate that is greater than the first repetition rate.--

--29. The method of claim 28 in which the second spatial spot size is greater than the first spatial spot size.--

--30. A blind via produced by the method of claim 1.--

REMARKS

Claims 1, 2, 4-18 and 20-30 are in the application. Claims 1 and 30 are in independent form. Claims 1, 2, 4, 10-12, 14-16, 18, and 20 are amended. Claims 3 and 19 are canceled. Claims 21-30 are added.

The drawings have been amended to correct misspellings.

The amendment to the specification brings the description into agreement with Fig. 6.

Claims 2-4, 9-12, and 14-20 stand rejected under 35 U.S.C. § 112, second paragraph, for being indefinite. These claims have been amended largely in accordance with the Examiner's suggestions and wording. Amended claims 14 and 16 differ only slightly from what the Examiner suggested. The duplicative claim 19 has been cancelled.

Claims 1-3, 9, 10, 12, 13, and 19 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent 4,789,770 to Kasner et al. The Examiner states that